

A revision of *Geoica* Hart, 1894 from China (Homoptera: Aphididae: Pemphiginae)

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Abstract: This paper deals with the aphids of *Geoica* Hart from China. There are 5 species (subspecies) in China. Among them, two new species, *G. parasetulosa* Zhang et Qiao and *G. necis* Zhang et Qiao and one new subspecies, *G. utricularia urumqiensis* Qiao et Zhang are described in the paper. Detailed morphological descriptions, records of host-plants and geographical distribution, key to species from China and 24 morphological figures are provided. All specimens including types are deposited in Institute of Zoology, the Chinese Academy of Sciences.

Key words: Homoptera; Pemphiginae; Fordini; *Geoica*; new species; new subspecies; China

Geoica Hart, 1894 belongs to Fordini, Pemphiginae, Aphididae, Homoptera. Aphids of the genus form leaf galls on *Pistacia* trees (the primary host) in the Mediterranean region and South-west and South Asia. They have a complex 2-year life cycle that includes migration to and from Gramineae (their secondary host), where all female populations feed on the roots. The *Pistacia* galling and grass-root-feeding forms of the same species are very different morphologically and have been in some cases originally described in different genera^[1].

Numerous species of the genus have been described, mainly based on the specimens collected from roots of Gramineae. Zwölfer^[2] has stated that majority of these species belong to two valid species *utricularia* Passerini and *setulosa* Passerini. Eastop and Hille Ris Lambers^[3] recognized 7 distinctly valid species besides the *utricularia* group consisting of 9 species. Brown and Blackman^[1] studied morphometric variation in *G. utricularia* species group on *Pistacia*, with descriptions of new species and a key to emigrant alatae given. Ghosh^[4] stationed 2 species in India.

When we studied systematically the material from China, two new species, *G. parasetulosa* Zhang et Qiao and *G. necis* Zhang et Qiao and one new subspecies, *G. utricularia urumqiensis* Qiao et Zhang are described. The aphids of *Geoica* Hartig from China including two new species and one new subspecies are studied in detail in this paper.

The terminology of Zwölfer^[2] and Brown and Blackman^[1] is followed in this paper. The unit of measurements is in millimeter (mm) in this paper. The specimens studied are collected from Xinjiang Uygur Autonomous Region, China by Zhang Guangxue, Zhong Tiesen and Li Jinghua. All

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specimens including types are deposited in Institute of Zoology, the Chinese Academy of Sciences.

***Geoica* Hart, 1894**

Geoica Hart, 1894, Rep. Ill. St. Ent., 18: 101.

Trinacriella del Guercio, 1913 Redia, 9: 169.

Serralaphis van der Goot, 1917 Contrib. Faune Indes Neerl., 1 (3): 262.

Neoschoutedenia Schumacher, 1923 Dt. Ent. Z., 403.

Pemphigetum Mordvilko, 1928 Bull. Soc. Zool. Fr., 53: 539.

Schoutedenum Mordvilko, 1928 In Philipiev, I. N. Keys for the identification of Russian Insects, Moscow, 173 (misidentification).

Type-species: *Geoica squamosa* Hart, 1894 = *Pemphigus utricularius* Passerini, 1856.

Apterous viviparous females: Antennae 4- or 5-segmented. Eyes 3-facets. Dorsum of body without wax gland plates, surface of body with reticulate sculptures. Dorsal hairs of body pointed, spatulate or flabellate. Siphunculi absent. Alate viviparous females: Antennae 6-segmented, segments III ~ IV or III ~ V each with round or oval secondary rhinaria; primary rhinaria ciliated. Eyes with ocular tubercles. Media vein of fore wing non-branched; hind wing with two obliques, which separated at base, veins fine and indistinct. Cauda small, round. Anal plate large. Two rudimentary gonapophyses.

With 17 species (subspecies) in the world, 5 species (subspecies) are found in China, including two new species and one new subspecies here described^[5].

Key to species of *Geoica* Hart (apterous viviparous females)

1. Dorsal hairs of body fine and short. Abdominal tergite I with 50 hairs, VIII with 21 hairs; length of hairs on tergite VIII as long as widest diameter of antennal segment III. Primary rhinaria non-ciliated. Ultimate rostral segment 1.12 times as long as hind tarsal segment; with 5 pairs of accessory hairs. First tarsal chaetotaxy: 5, 5, 5 *G. necis* sp. nov.
Dorsal hairs of body pointed, spatulate, or flabellate. Abdominal tergite I with at least 72 hairs, VIII with at most 16 hairs; length of hairs on tergite VIII at least 1.67 times as long as widest diameter of antennal segment III. Primary rhinaria ciliated. Ultimate rostral segment at least 1.63 times as long as 2nd hind tarsal segment, with at most 4 accessory hairs. First tarsal chaetotaxy: 3, 3, 3 or 3, 2, 2 2
2. Abdominal tergites with 1 large dorsal patches. Head with 58~75 hairs; pronotum with 120 hairs. Antennal segment III with 30~33 hairs. Ultimate rostral segment with 4 pairs of accessory hairs. Genital plate with about 150 hairs *G. utricularia urumqiensis* ssp. nov.
Abdominal tergites without large dorsal patches. Head with at most 48 hairs; pronotum with at most 76 hairs. Antennal segment III with at most 19 hairs. Ultimate rostral segment with 3 pairs of accessory hairs. Genital plate with at most 57 hairs 3
3. Hairs on antennal segments I and II stout at apex, and slightly bent. Anal plate with longer hairs, which lie in two lines 4
Hairs on antennal segments I and II pointed and straight. Anal plate with shorter hairs, which distribute in random

- *G. lucifuga*
4. Pronotum with about 70 hairs. Abdominal tergite I with 140~180 hairs, tergite VIII with 10~12 hairs. Processus terminalis 0.37 time as long as basal part of segment. Antennal segment III with 8~11 hairs. Cauda with 18 hairs. Anal plate with 22~24 longer hairs *G. setulosa*
- Pronotum with 38 hairs. Abdominal tergite I with 72 hairs, tergite VIII with 7 hairs. Processus terminalis 0.17 time as long as basal part of segment. Antennal segment III with 19 hairs. Cauda with 14 hairs. Anal plate with 57 longer and shorter hairs *G. parasetulosa* sp. nov.

***Geoica parasetulosa* Zhang et Qiao, sp. nov. (Figs. 1~9)**

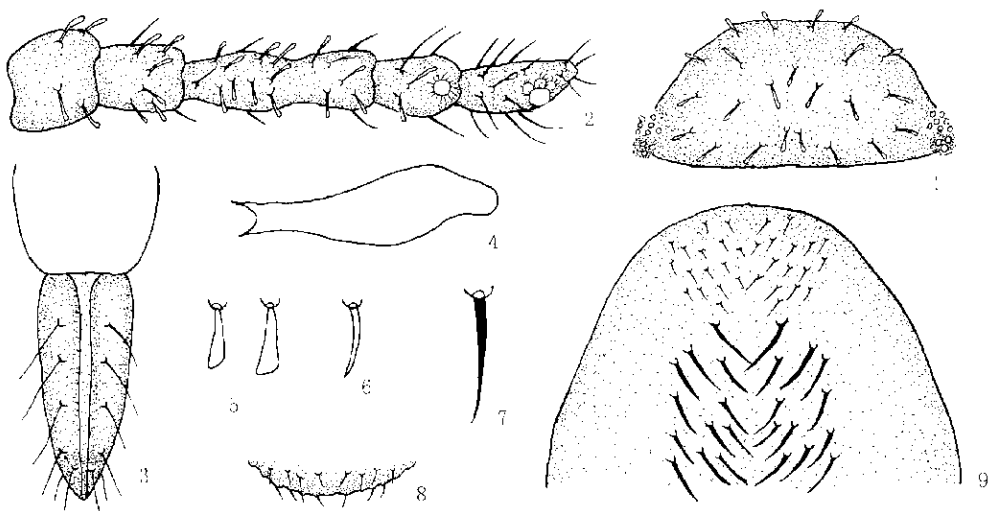
Apterous viviparous females: Body oval. Measurements (in mm): Body 2.625 in length, 1.725 in width. Antenna 0.505, length of segments I ~ V: 0.078, 0.078, 0.165, 0.078, 0.092 + 0.015, respectively. Ultimate rostral segment 0.206 in length, 0.088 in width. Hind femur 0.324, hind tibia 0.391, 2nd hind tarsal segment 0.113.

Mounted specimens: Head, antennal segments IV ~ V, apex of rostrum, legs darken brown, others slightly brown. Spiracles round, semi-opened; spiracular plates round, darken brown, with a few reticulations. Marginal areas of thorax, abdominal tergites VII ~ VIII and ventral of body reticulated. Dorsal hairs of body spatulate, marginal hairs much longer, sickle-shaped. Head with 25 dorsal hairs, pronotum with 38 hairs, mesonotum with 65 hairs, metanotum with 64 hairs; abdominal tergites I ~ VII each with 72, 50, 63, 64, 47, 27 and 12 hairs, respectively; tergite VIII with 7 thick long sharp hairs. Length of cephalic hairs, marginal hairs on abdominal tergite I and dorsal hairs on tergite VIII 0.041, 0.041, 0.092, 0.08 time, 0.80 time and 1.80 times as long as widest diameter of antennal segment III, respectively. Mesosternal furca with connected arms, length of arms 0.227, 2.93 times as long as antennal segment II. Media front arc-shaped. Eyes including 10 ocelli, ocular tubercles distinct. Antenna 5-segmented, thick and short, 0.19 time as long as body; length in proportion of segments I ~ V: 47, 47, 100, 47, 56 + 9; processus terminalis 0.17 time as long as basal part of segment. Antennal hairs similar to dorsal hairs of body, segments I ~ V each with 4, 8, 19, 6, 10 hairs, respectively; apex of processus terminalis with 4 hairs. Length of hairs on antennal segment III 0.036, 0.70 time as long as widest diameter of the segment. Primary rhinaria small round, thick ciliated. Rostrum reaching mid-coxae, ultimate rostral segment thick and wedge-shaped, 2.35 times as long as basal width of segment, 1.82 times as long as 2nd hind tarsal segment; with 6 pairs of hairs, 3 pairs of accessory hairs among them. Legs thick and short. Hind femur 1.97 times as long as antennal segment III; hind tibia 0.15 time as long as body. Dorsal hairs on legs similar to dorsal hairs of body, ventral hairs on legs sharp, length of hairs on hind tibia 0.036, 0.58 time as long as middle width of segment. First tarsal chaetotaxy: 3, 2, 2. Siphunculi absent. Cauda circular at apex, small, with 14 hairs. Anal plate almost rectangular, large, with 25 thick long and 32 short pointed hairs. Gonapophyses three, each with 6 hairs, respectively.

This new species is closely related to *Geoica setulosa* (Passerini, 1856), but differs from it in: pronotum with 38 hairs (the latter: about 70 hairs); meso- and metanotum each with about 65

hairs (the latter: 140~150 hairs); abdominal tergites I~VI each with about at most 70 hairs (the latter: 140~180 hairs); abdominal tergite VII with 12 hairs (the latter: 39 or 40 hairs); tergite VIII with 7 hairs (the latter: 10~12 hairs); processus terminalis 0.17 time as long as basal part of segment (the latter: 0.37 time); antennal segment III with 19 hairs (the latter: 8~11 hairs).

Holotype: Apterous viviparous female, No. 3772-1-2-2, 1953-X-23, Jiangsu Province (Xuzhou City, E117.1°, N34.2°), by ZHONG Tie-sen, on root of a kind of grass; paratypes 8 apterous viviparous females: No. 3772, others same as holotype.



Figs. 1~9 *Geoica parasetulosa* Zhang et Qiao, sp. nov. 拟钝毛根蚜, 新种

apterous viviparous females 无翅孤雌蚜: 1. dorsal view of head 头部背面观; 2. antenna 触角;

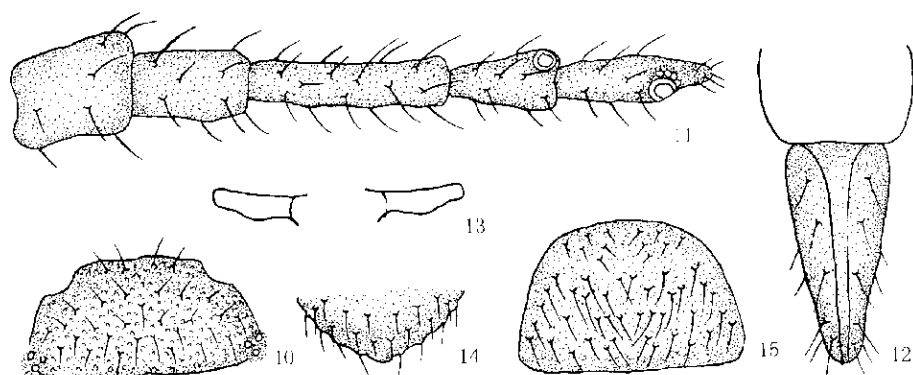
3. ultimate rostral segment 喙节 IV + V; 4. mesosternal furca 中胸腹岔; 5. dorsal hairs on abdominal tergites 腹部背毛; 6. marginal hairs on abdominal tergites 腹部背片缘毛;

7. dorsal hairs on tergite VIII 背片 VIII 毛; 8. cauda 尾片; 9. anal plate 尾板

Geoica necis Zhang et Qiao, sp. nov. (Figs. 10~15)

Apterous viviparous females: Body oval. Measurements: Body 1.360 in length, 1.082 in width. Antenna 0.603, length of segments I~V: 0.103, 0.103, 0.175, 0.093, 0.103 + 0.026. Ultimate rostral segment 0.196 in length. Hind femur 0.340, hind tibia 0.505, 2nd hind tarsal segment 0.175.

Mounted specimens: Head, antennal segments I~II and V, rostral segments III~V, legs, cauda, anal plate and genital plate brown, others slightly brown. Spiracles small, round, opened, spiracular plates oval, slightly brown. Mesosternal furca with deparated arms, pale, length of arms 0.082, 0.80 time as long as antennal segment II. Dorsum of head and ventral of head with distinctly heavily spinulated tubercles. Ventrum and dorsum of marginal areas of thorax heavily spinulated; ventral of abdomen spinulated stripes, spinulates on marginal areas distinct and large, similar to tubercles on dorsum of head. Abdominal tergites VII~VIII with spinulated stripes. Cauda and anal plate spinulated. Dorsal hairs of body fine, short and sharp, ventral hairs longer, and sharper than

Figs. 10~15 *Geoica necis* Zhang et Qiao, sp. nov. 尸根蚜, 新种

apterous viviparous females 无翅孤雌蚜: 10. dorsal view of head 头部背面观; 11. antenna 触角; 12. ultimate rostral segment 喙节 IV + V; 13. mesosternal furca 中胸腹岔; 14. cauda 尾片; 15. anal plate 尾板

dorsal hairs of abdomen. Marginal hairs on abdominal tergites thick, long and sharp. Dorsal hairs of head with 33 thick and long hairs, pronotum with about 40 hairs; abdominal tergites I ~ VII each with 40, 30, 37, 33, 26, 17 and 10 spino-pleural hairs, respectively; and 5, 5, 5, 7, 6, 7 and 9 pairs of marginal hairs, respectively; tergite VIII with 21 hairs. Length of cephalic hairs, marginal hairs on abdominal tergite I and dorsal hairs on tergite VIII 0.031, 0.031 and 0.052, 0.60 time, 0.60 time and 1.00 time as long as widest diameter of antennal segment III, respectively. Median front flat. Antenna 5-segmented, thick and short, 0.44 time as long as body; length in proportion of segments I ~ V: 59, 59, 100, 53, 59 + 15; processus terminalis 0.25 time as long as basal part of segment. Antennal hairs thick and sharp, much long, apex of antennal segments I ~ III with sickle-shaped hairs, antennal segments I ~ V each with 8 or 9, 11 or 12, 17~19, 11 and 8 hairs, respectively; apex of processus terminalis with 5 hairs. length of hairs on antennal segment III 0.041, 0.80 time as long as widest diameter of segment. Primary rhinaria small, circular, non-ciliated. Rostrum reaching abdominal segments II or III; ultimate rostral segment 2.11 times as long as basal width of segment, 1.12 times as long as second hind tarsal segment; with 8 pairs of hairs, 5 pairs of accessory hairs among them. Legs normal, slightly thick. Hind femur 1.94 times as long as antennal segment III. Hind tibia 0.37 time as long as body, hairs on legs sharp, slightly longer, sharp, length of hairs on hind tibia 0.041, 0.73 time as long as middle width of segment. First tarsal chaetotaxy: 5, 5, 5. Siphunculi absent. Cauda circular at apex, small, 0.062 in length, 0.43 time as long as basal width, with 22 hairs. Anal plate rectangular, large, with 50 hairs, 12 short and sharp hairs among them.

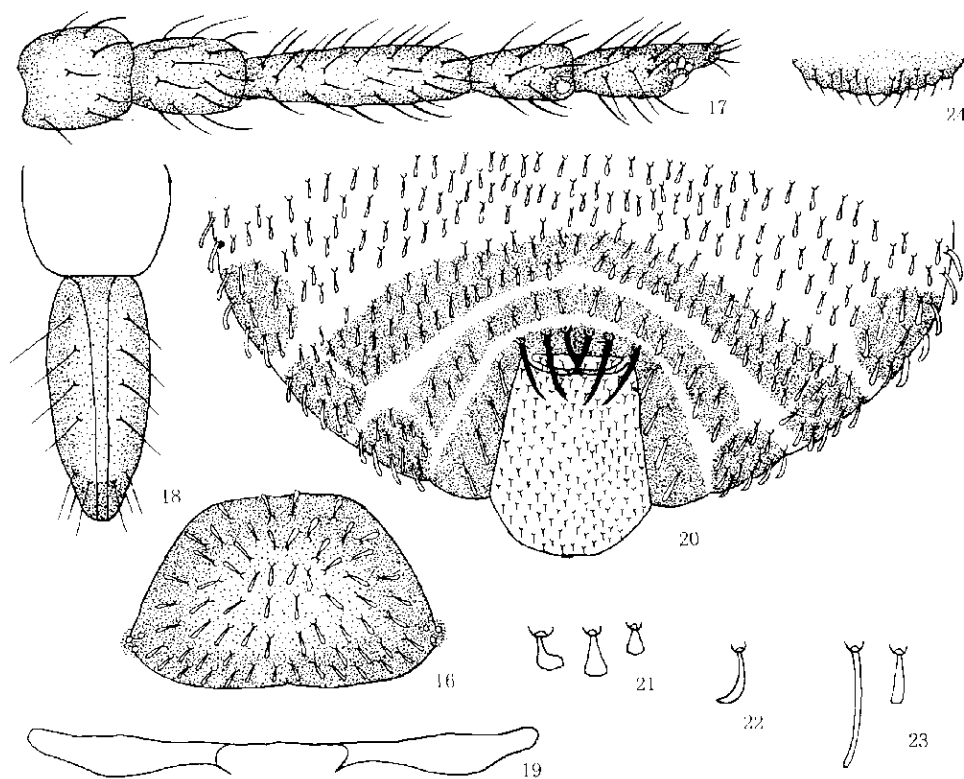
Holotype: Apterous viviparous female, No. 9789-1-1-1, 1990-VII-5, Gansu Province (Jiquan City, E98.4°, N39.7°), on *Triticum aestivum*, by ZHANG Guang-xue, ZHONG Tie-sen and LI Jing-hua.

This new species differs from all known species of *Geoica* Hart in: first tarsal chaetotaxy: 5,

5, 5 (the latters: 3, 3, 2 or 3, 3, 3); primary rhinaria non-ciliated (the latters: ciliated); dorsum of head and thorax with spinulated tubercles (the latters: without upper stationed characters).

***Geoca utricularia urumqiensis* Qiao et Zhang, ssp. nov.** (Figs. 16~24)

Apterous viviparous females: Body oval. Measurements: Body 2.531 in length, 1.950 in width. Antenna 0.654, length of segments I ~ V: 0.099, 0.099, 0.216, 0.093, 0.112 + 0.030, respectively. Ultimate rostral segment 0.227 in length. Hind femur 0.402, hind tibia 0.556, second hind tarsal segment 0.139.



Figs. 16~24 *Geoca utricularia urumqiensis* Qiao et Zhang, ssp. nov. 袋根蚜乌鲁木齐亚种, 新亚种
apterous viviparous females 无翅孤雌蚜: 16. dorsal view of head 头部背面观; 17. antenna 触角; 18. ultimate
rostral segment 喙节 IV + V; 19. mesosternal furca 中胸腹盆; 20. dorsal view of abdominal tergites V ~ VIII
腹部节 V ~ VIII 背面观; 21. dorsal hairs of body 体背毛; 22. marginal hairs of body 体缘毛;
23. dorsal hairs on tergite VIII 背片 VIII 毛; 24. cauda 尾片

Mounted specimens: Head, rostrum, legs and antennae dark brown, cauda, anal plate, genital plate and gonapophyses brown, dorsum of thorax and abdominal tergites I ~ VII each with 1 pair of large marginal patches, tergites VI ~ VII each with one broad transverse spino-pleural band, tergite VIII with transverse band on wholly segment. Spiracles circular, semi-open, spiracular plates

oval, slightly brown, with reticulated. Posterior of dorsum of head and dorsum of thorax and abdomen reticulated. Mesosternal furca with connected arms, length of arms 0.237, 2.36 times as long as antennal segment II. Dorsal hairs of body spatulate slightly short, marginal hairs of body slightly longer, sickle-shaped. Ventral hairs similar to dorsal hairs. Head with 58~75 dorsal hairs; pronotum with about 120 hairs; abdominal tergite I with about 160 hairs, tergite VII with 18~20 spino-pleural hairs and 22 pairs of marginal hairs; tergite VIII with 14~16 hairs; other abdominal tergites each with about 150~200 hairs. Length of cephalic hairs, marginal hairs on abdominal tergite I and dorsal hairs on tergite VIII 0.041, 0.031, 0.103, 0.67 time, 0.50 time and 1.67 times as long as widest diameter of antennal segment III, respectively. Eyes 3-facets. Medial front arc-shaped. Antenna 5-segmented, thick and short, 0.26 time as long as body; length in proportion of segments I~V: 46, 46, 100, 43, 52+14; processus terminalis 0.27 time as long as basal part of segment. Antennal hairs thick, long and sharp, sickle-shaped; segments I~V each with 7 or 8, 17 or 18, 30~33, 8~11, 12~15 hairs, respectively; apex of processus terminalis with 5 hairs. Length of hairs on segment III 0.057, 0.92 time as long as widest diameter of segment. Primary rhinaria small round, long ciliated. Rostrum reaching mid-coxae, ultimate rostral segment thick wedge-shaped, 2.75 times as long as basal width of segment, 1.63 times as long as second hind tarsal segment, with 7 pairs of thick, long and sharp hairs, 4 pairs of accessory hairs among them. Legs normal, slightly short. Hind femur 1.86 times as long as antennal segment III. Hind tibia 0.22 time as long as body. Hairs on coxae and trochanter similar to dorsal hairs of body, dorsal and ventral hairs on femur short-pointed, sickle-shaped; inner hairs on tibia sharp, outer hairs on tibia sickle-shaped. Length of hairs on tibia 0.059, 1.00 time as long as middle width of segment. First tarsal chaetotaxy: 3, 2, 2. Siphunculi absent. Cauda circular at apex, small, with 20~22 short sharp hairs. Anal plate rectangular, with about 150 short pointed hairs, distribute at random. Genital plate with transverse band, with 25 hairs, 2 anterior hairs among them, hairs on genital plate spatulate. Gonapophyses two, each with 6 fine pointed hairs.

Holotype: Apterous viviparous female, No. 9206-1-1-1, 1989-V-29, Xinjiang Uygur Autonomous Region (Ürümqi City, E87.6°, N43.8°), by LI Jing-hua, ZHANG Guang-xue and ZHONG Tie-sen, on *Hordeum vulgare*; paratypes 3 apterous viviparous females, No. 9206, other data same as holotype.

This new species is closely allied to *Geoica utricularia utricularia* (Passerini), but differs from it in: body large, 2.531 mm in length (the latter: slightly small, 1.300~2.200 mm in length); antennal hairs thick, long pointed, sickle-shaped (the latter: antenna with spatulate-shaped hairs).

Geoica lucifuga (Zehntner, 1897)

Tetraneura lucifuga Zehntner, 1897, Arch. Suikerind Ned Ind., 6: 55.

Geoica golbachii Blanchard, 1958, Acta Zool. Lilloana, 15: 155.

Geoica horvathi Nevsky, 1929, Zool. Anz., 82: 224.

Geoica pseudosetulosa Theobald, 1924, Bull. Ent. Res., 19: 179.

Geoica spatulata Theobald, 1922, Bull. Soc. Ent. Egypte, 7: 73.

Geoica lucifuga: Tao, 1970, Ann. Rept. Taiwan Mus., 13: 26.

Host-plants: secondary hosts: on the roots of *Imperata cylindrica*, *Carex* spp., *Danthonia* spp., *Cynodon* spp., *Paspalum* spp., *Oryza sativa*, *Hordeum vulgare*, *Saccharum sinensis*, *Triticum aestivum* and *Zea mays*; primary hosts unknown.

Distribution: China: Shandong Province (Zhanhua County 30 m, N37.7°, E118.1°, No. Y1585, No. Y1584), Taiwan Province; Israel, Egypt, Pakistan, Sri Lanka, India, Malaya, Indonesia, Philippines, Russia, Australia, Java, Central Asia^[6, 7].

Geoica setulosa (Passerini, 1860)

Typea setulosa Passerini, 1860, Gli Aphidi con un prospetto dei generi ed alcune specie nuove Italiane, Parma, 40.

Geoica herculana Mordviko, 1935, Ergeb. u. Fortschr Zool., 8: 215.

Host-plants: primary host: *Pistacia khinjuk* (in Iran); secondary hosts on roots of grasses, *Roegneria kamoji* (in China), *Agrostis* spp., *Alopecurus* spp., *Briza* spp., *Corynephorus* spp., *Festuca* spp., *Holcus* spp., *Hordeum* spp. and *Poa* spp. (in Europe).

Distribution: China: Hebei Province (Xinlong County 800 m, N40.4°, E117.5°, No. Y4049-2), Tibet (Lhasa City 3 600 m, N29.6°, E91.1°, No. Y3878); Iran, Turkey, North Europe, West Europe, Central Europe, Italy, Egypt, Russia^[6, 7].

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References (参考文献)

- [1] Brown P A, Blackman R L. Morphometric variation in the *Geoica utricularia* (Homoptera: Aphididae) species group on *Pistacia* (Anacardiaceae), with descriptions of new species and a key to emigrant alate. Sys. Ent., 1994, 19: 119~132
- [2] Zwölfer H. Zur Systematik Biologie und Ökologie unterirdisch lebender Aphiden (Homoptera: Aphidoidea) (Anoeciinae, Tetraneurini, Pemphigini und Fordinae) Teil II. Tetraneurina und Pemphigini, Z. Angew. Ent., 1957, 40: 528~575
- [3] Eastop V F, Hille Ris Lambers D. Survey of the world's aphids. Dr. W. Junk b. v., Publishers. The Hague, 1976, 1~573
- [4] Ghosh A K. Fauna of India Homoptera Aphidoidea, part 3 Subfamily Pemphiginae. Zool. Sur. of India, Calcutta, 1984, 386~399
- [5] Remaudière G, Remaudière M. Catalogue of the world's Aphididae Homoptera Aphidoidea. Paris: INRA Institut National de la Recherche Agronomique, 1997. 240
- [6] Heie O E. The Aphidoidea of Fennoscandia and Denmark, I. Fauna Ent. Scand., 1980, 9: 196~199
- [7] Zhang G X, Qiao G X, Zhong T S et al. Fauna Sinica Insecta Vol. 14, Homoptera Mindaridae and Pemphigidae. Beijing: Science Press, 1999. 282~286

中国根蚜属的研究

（同翅目：蚜科：瘿绵蚜亚科）

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摘要：系统研究了中国根蚜属 *Geoica* Hart 的蚜虫。中国分布有 5 种（亚种），其中有二新种：拟钝毛根蚜 *G. parasetulosa* Zhang et Qiao 和尸根蚜 *G. necis* Zhang et Qiao，一新亚种：袋根蚜乌鲁木齐亚种 *G. utricularia urumqiensis* Qiao et Zhang。该文提供了详细的形态特征记述，寄主植物和地理分布资料，中国分布种类的分种检索表和 24 幅形态特征图。所有标本保存在中国科学院动物研究所昆虫标本馆。

关键词：同翅目；瘿绵蚜亚科；五节根蚜族；根蚜属；新种；新亚种；中国

中图分类号：Q969.367.1 **文献标识码：**A **文章编号：**0454-6296（2001）01-0079-09

拟钝毛根蚜，新种 *Geoica parasetulosa* Zhang et Qiao, sp. nov.（图 1~9）

正模：无翅孤雌蚜，No. 3772-1-2-2，1953 年 10 月 23 日，江苏（徐州市，N34.2°，E117.1°），寄主：麻雀草（根部），钟铁森采集，副模：8 只无翅孤雌蚜，No. 3772，其它同正模。

本新种与钝毛根蚜 *Geoica setulosa* (Passerini) 有较近亲缘关系，不同在于：前胸背板有 38 根毛（后者：大约 70 根），中、后胸背板各有约 65 根毛（后者：140~150 根），腹部背片 I~VI 各节最多有 70 根毛（后者：140~180 根），背片 VII 有 12 根毛（后者：39 或 40 根），背片 VIII 有 7 根毛（后者：10~12 根），触角末节鞭部为基部 0.17（后者：0.37），触角节 III 有 19 根毛（后者：8~11 根）。

尸根蚜，新种 *Geoica necis* Zhang et Qiao, sp. nov.（图 10~15）

正模：无翅孤雌蚜，No. 9789-1-1-1，1990 年 7 月 5 日，甘肃省（酒泉市，E98.4°，N39.7°），寄主：小麦，张广学、钟铁森、李静华采集。

本新种与根蚜属 *Geoica* Hart 所有已知种不同在于：跗节 I 毛序：5，5，5（后者：3，3，2 或 3，3，3）；原生感觉圈无睫（后者：有睫）；头部背面和胸部背板有小刺状突起（后者：无）。

袋根蚜乌鲁木齐亚种，新亚种 *Geoica utricularia urumqiensis* Qiao et Zhang, ssp. nov.（图 16~24）

正模：无翅孤雌蚜，No. 9206-1-1-1，1989 年 5 月 29 日，新疆（乌鲁木齐，N43.8°，E87.6°），寄主：冰草，李静华、张广学、钟铁森采集；副模：3 只无翅孤雌蚜，No. 9206，其它同正模。

本新亚种与袋根蚜指名亚种 *Geoica utricularia utricularia* (Passerini) 不同在于：身体较大，体长 2.531 mm（后者：较小，体长 1.300~2.200 mm），触角毛粗长尖，镰刀状（后者：有匙状毛）。